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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/516,342	10/12/2005	Richard N. Kolesnick	1216-1-006PCT/US	9514

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EXAMINER	
MCGARRY, SEAN	

ART UNIT	PAPER NUMBER
1635	

MAIL DATE	DELIVERY MODE
05/29/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/516,342	KOLESNICK ET AL.	
	Examiner	Art Unit	
	Sean R. McGarry	1635	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 February 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-30* is/are pending in the application.

4a) Of the above claim(s) *1-20,29 and 30* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *21-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *2/28/08*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Applicant's election with traverse of Group II, claims 21-28 in the reply filed on 2/28/08 is acknowledged. The traversal is on the ground(s) that the examiner has not established that the groups of the restriction have proerties so distinct as to warrant separate examination and search. This is not found persuasive because of the reasons set forth in the restriction requirement of record and furthermore, applicant has failed to address the prior art cited that destroys any special technical feature that would link the inventions.

The requirement is still deemed proper and is therefore made FINAL.

Claims 1-20, 29 and 30 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 2/28/08.

Applicants comments on the claim numbering in the restriction requirement is correct and that numbering is adopted by the examiner. Any inconvenience to applicant with this oversight is regretted.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 22 and 28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 22 and 28 both depend on withdrawn claim 1. Since this claims has been withdrawn from consideration the claims are left vague and indefinite.

In order to promote efficient and compact prosecution claims 22 and 28 will be addressed below as if the limitations of claim 1 were embraced therein and are placed in the rejections as they would be rejected if this were the case.

Claims 23 and 26 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The invention of claims 23 and 26 include the use of a "compound or agent" that inhibits the expression of mammalian KSR. The instant specification describes the use of nucleic inhibitors where the inhibitors are complementary to a KSR mRNA. The specification does not provide any disclosure that one in the art would be aware of the

structure of any other agents or compounds that would possess the function of inhibiting the expression of mammalian KSR. One in the simply would not know the structure of these "agents" or "compounds" based on the instant specification. The disclosure of nucleic acid based inhibitors does not provide a disclosure of a genus of agents or compounds that might inhibit KSR expression.

Vas-Cath Inc. v. Mahurkar, 19 USPQ2d 1111, makes clear that "applicant must convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession *of the invention.* The invention is, for purposes of the 'written description' inquiry, *whatever is now claimed.*" (See page 1117.) The specification does not "clearly allow persons of ordinary skill in the art to recognize that [he or she] invented what is claimed." (See Vas-Cath at page 1116.)

With the exception of nucleic acid based inhibitors of expression, the skilled artisan cannot envision the detailed chemical structure of the encompassed compounds or agents that inhibit KSR expression, regardless of the complexity or simplicity of the method of isolation. Adequate written description requires more than a mere statement that it is part of the invention and reference to a potential method for isolating it. The nucleic acid itself is required. See Fiers v. Revel, 25 USPQ2d 1601, 1606 (CAFC 1993) and Amgen Inc. V. Chugai Pharmaceutical Co. Ltd., 18 USPQ2d 1016. In Fiddes v. Baird, 30 USPQ2d 1481, 1483, claims directed to mammalian FGF's were found unpatentable due to lack of written description for the broad class. The specification provided only the bovine sequence.

Claims 23-25 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The invention of claims 23-25 include the prevention of hyperproliferative diseases via the administration of antisense compounds or compounds or agents that inhibit the expression of mammalian KSR. The instant specification shows that hyperproliferation of cells can be inhibited by inhibiting the expression of KSR, but does not provide sufficient guidance such that one in the art would know how to prevent a hyperproliferative disease from manifesting. The specification does not show by example or by correlation that a disease such as cancer can be prevented via the instantly claimed method. The specification simply does not show that these types of diseases can be prevented by inhibiting KSR. One in the art would be left to undue trial and error experimentation to, first determine what/how specific hyperproliferative diseases are manifested and then determine if they might be prevented by the prophylactic treatment with KSR expression inhibiting compounds. The specification as filed does not provide guidance such that one in the art could accomplish such with out undue trial and error experimentation.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 21 and 22 are rejected under 35 U.S.C. 102(a) as being anticipated by Yan et al [Cancer Research, 2001, cited on applicants IDS filed 2/28/08].

Yan et al disclose the inhibition of KSR in murine cell via the expression of an antisense KSR transcript from a recombinant plasmid.

Claims 21, 22, 26, and 28 rejected under 35 U.S.C. 102(e) as being anticipated by Monia et al [US 2003/0109466, cited by applicant on IDS of 2/28/08].

Monia et al disclose the use of antisense oligonucleotides targeted to KSR for the treatment of hyperproliferative diseases including cancer (see paragraphs 12, 56, 124 and claims 15-18, for example).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 21-24 and 26-28 rejected under 35 U.S.C. 103(a) as being unpatentable over Monia et al [US2003/0109466].

The invention is as clearly set forth in the claims.

Monia et al have taught the use of antisense oligonucleotides to inhibit KSR expression. It has been taught to inhibit KSR expression for the treatment of KSR associated diseases such as hyperproliferative disease such as cancer. Monia et al

have not specifically taught that the cancers are due to gf-Ras or heightened expression of Ras and do not specifically disclose the specific cancers recited in the claims. However Monia et al have taught the association of KSR with cancer and that KSR is in the same biochemical pathway as Ras as KSR is a kinase suppressor of Ras. It would have been obvious at the time of invention to treat cancers associated with ras as these are also associated with KSR. Monia et al have provided guidance for the determination of conditions treatable by antisense inhibition of KSR and have provided assays and cell that one could use in these assays.

The invention as a whole would therefore have been *prima facie* obvious to one in the art at the time the invention was made.

Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Monia et al [US2003/0109466] as applied to claims 21-24 and 26-28 above, and further in view of Noonberg et al [US 5,624,803].

The invention of claim 25 contains a limitation that the antisense is expressed in the cell. Monia et al does not specifically teach the use of a vector, for example to express a KSR antisense in the treatment of diseases such as cancer.
Noonberg however have taught the use of in vivo oligonucleotide generators for the effective expression of antisense in methods of treating disease in animal, including cancer. It has been taught that the use of an in vivo oligonucleotide generator can be more effective at delivering antisense over longer periods of time, for example.

One in the art would surely have been motivated to express the antisense oligonucleotides of Monia et al with the in vivo oligonucleotide generators of Noonberg et al in the interest of effective antisense oligonucleotide delivery.

The invention as a whole would therefore have been *prima facie* obvious to one in the art at the time the invention was made.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sean R. McGarry whose telephone number is (571) 272-0761. The examiner can normally be reached on M-Th (6:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, J. Doug Schultz can be reached on (571) 272-0763. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Sean R McGarry
Primary Examiner
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